

REMARKS

I. Introduction

Claims 1-16 are pending in the application. In the final Office Action dated February 20, 2007, and the Advisory Action dated May 18, 2007, the Examiner rejected claims 1-12 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 6,512,985 ("Whitefield"). Additionally, claims 13-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Whitefield in view of U.S. Pat. No. 6,606,574 ("Takanabe"). In this Amendment, claims 1 and 10-16 have been amended. Applicant respectfully requests reconsideration of the claims.

II. The Proposed Combinations Do Not Render the Claims Unpatentable

Claims 1-12 were rejected as being unpatentable over Whitefield and claims 13-16 were rejected as being unpatentable over Whitefield in view of Takanabe. Each of the amended independent claims recites performing an analysis by **means of an evaluation unit** using values of at least one **process** parameter of the **manufacturing process** of the plurality of physical objects, the values being measured **while** the plurality of physical objects is being manufactured. Whitefield fails to teach at least this element.

The Examiner has asserted that Whitefield teaches performing an analysis using values of at least one process parameter of a manufacturing process of a plurality of physical objects. Specifically, it is asserted in the Advisory Action that:

The cited portion of the reference "an **operator or technician takes readings** on the wafer either by direct inspection... or by processing the wafer through a specialized test instrument. (Emphasis added). . . . The specialized test instrument of Whitefield could then easily be an automated test equipment, especially since it is disclosed as being opposed to "direct inspection".

(Emphasis added). Applicant disagrees. The specialized test instrument of Whitefield is **not** automated test equipment because an **operator or technician** is explicitly required by the Whitefield system for taking readings, irrespective of whether the readings are taken by direct inspection or by processing the wafer through a specialized test instrument.

Additionally, the Examiner further argued in the Advisory Action that:

The claims language specifies only “an evaluation unit” which lends itself to many interpretations. . . . This could include an **operator performing manual analysis**, an operator using an analysis machine, a machine performing analysis under supervision of a user, etc.

(Emphasis added). Applicant disagrees. The claims recite “performing an analysis by means of an evaluation unit”, i.e. in the current claims it is the **evaluation unit** that performs the analysis, and **not** an operator or technician as in Whitefield. One skilled in the art would not equate an (human) operator or technician with an (electronic) evaluation unit.

Moreover, in the Advisory Action, the Examiner states that:

The application states that reference Whitefield discloses an Operator inspecting “a process unit like a wafer, rather than a process parameter of a manufacturing process as recited in the independent claims.” While the examiner agrees that Whitefield discloses inspecting a wafer, the examiner **disagrees** with the assertion **that the inspection of properties of a manufactured and processed wafer is not an inspection of a parameter of the manufacturing process**. Each feature of the wafer is created by, a result of, and therefore indicative of the processing steps. Therefore, each inspected feature of a wafer is also indicative of the process of the manufacture and is therefore a parameter of the manufacturing process.

(Emphasis added). Applicant disagrees.

As can be seen from the examples disclosed in the specification of the current application, a **process** parameter is defined as a parameter of the **manufacturing process**, and not as a **product** parameter of the actual **product**. For example, Paragraph [0011] of the current application states:

[0011] A **process** parameter is to be understood in this connection as meaning a parameter of a **manufacturing** process of a physical object. These include, for example, in the manufacture of a wafer the **misalignment**, the inaccuracy of the positioning of the wafer in the machine (or in other words a deviation of an actual position of the wafer in the machine from the prescribed position of the wafer in the machine, within a positioning step), the **temperature** during a process step, the **gas flow** during a process step, generally all **valve positions**, a wafer carrier **speed** and a wafer carrier **contact pressure**. Other process parameters in lithography are, for example, various alignment variables, a focusing or a dose. These process parameters are consistently recorded during the manufacturing process and are available for an analysis.

(Emphasis added). Applicant submits that there is a difference between using values of a **process** parameter of the **manufacturing** process, and using values of a **product** parameter of the actual **product**. This is especially the case in the present invention since, as recited in the amended claims, the process parameter values are measured **while** the plurality of physical objects is **being manufactured**, and physical objects that do not satisfy a prescribed selection criterion, are removed. This is different from inspecting a product such as a wafer (i.e., a “process unit” in Whitefield) to determine a characteristic of the product after a manufacturing step has been completed, as discussed in Col. 5, lines 5-15 of Whitefield.

Finally, in the Advisory Action, the Examiner asserts “one of ordinary skill in the art at the time of invention would have known the benefits of an automated process over a human. The state of the art is such that automated inspections are **well known and commonly employed**.” (Emphasis added). Applicant respectfully disagrees. Further, Applicant submits that the field of technology of the present invention is mature and well documented with a high level of knowledge and skill. There is ample documentation, properly indexed and/or categorized, in this field of technology. If the invention of the current claims has been done before or discussed, it would be quite likely that written documentation would be available. However, no references have been cited in support for the assertion that automated inspections are well known and commonly employed in this field of technology. Applicant requests that the Examiner cite support for the assertion that automated inspections are well known and commonly employed in this field of technology. (See MPEP § 2144.03).

Because Whitefield fails to teach at least: (i) performing an analysis of a **process** parameter of a **manufacturing process**, the process parameter measured **while** the plurality of physical objects is **being manufactured**, and (ii) performing such analysis by **means of an evaluation unit**, as recited in each of the independent claims, Whitefield necessarily does render independent claims 1 and 10-12, or any claim that depends on claim 1, unpatentable.

Further, because the deficiencies of Whitefield are not addressed by Takanabe, the proposed combination of Whitefield and Takanabe necessarily does not render independent claims 13-16 unpatentable.

III. Conclusion

In view of the foregoing remarks and amendments, Applicant submits that the pending claims are in condition for allowance. Reconsideration is therefore respectfully requested. If there are any questions concerning this Response, the Examiner is asked to phone the undersigned attorney at (312) 321-4200.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "S.W. Brim", is written over a horizontal line.

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